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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,648	10/17/2000	Shalaby Wahba Shalaby	00537-165002	9033

7590

07/01/2003

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EXAMINER

NAFF, DAVID M

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 07/01/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/1600648

Applicant(s)

Shalaby

Examiner

Haff

Group Art Unit

1451

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 4/17/03
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-46 is/are pending in the application.
- ☐ Of the above claim(s) is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 1-46 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____
 - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 16 (Filed 3/24/03)
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

The response of 4/7/03 presented arguments and did not amend the claims.

Claims examined on the merits are 1-46 which are all claims in the application.

5 ***Claim Rejections - 35 USC § 103***

Claims 1-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shalaby et al (5,672,659) in view of Auer et al (WO 92/11844) for reasons in the previous office action of 10/2/02 and for reasons herein.

10 The claims are drawn to a microparticle having a heterochain polymer core and one or more peptides and/or proteins immobilized on the core.

Shalaby et al disclose conjugates of heterochain polymers (col 2, line 7) and polypeptides.

Auer et al disclose polymer microspheres containing a protein
15 (Examples 3, 4 and 5).

It would have been obvious to provide the polymer of Shalaby et al in the form of a microsphere as suggested by Auer et al to obtain the function of a microsphere form. Immobilizing the polypeptide on the microsphere would have been obvious to provide ready access to the
20 polypeptide for reaction with another substance.

Response to Arguments

Applicant urges that in Auer et al electrostatic interaction occurs between a biological agent and a polycation which is dissimilar to ionic interactions that immobilize a peptide on the surface of a heterochain
25 polymer microparticles in the present invention. However, Shalaby et al

disclosed ionic interaction between a peptide and a heterochain polymer. The rejection is not based on using the interaction of Auer et al as the interaction of Shalaby et al but on providing the polymer of Shalaby et al as a microsphere as suggested by Auer et al, and attach the peptide
5 to the microsphere using the ionic interaction disclosed by Shalaby et al. While the protein of Auer et al may be in the microsphere, in the examples of Shalaby et al the polymer is prepared, and the peptide is ionically conjugated to the polymer. This results in the peptide being attached to the surface of the polymer. In Example 11, Shalaby et al
10 produce a peptide-polymer ionic conjugate microparticle. In this example, a polymer microparticle is prepared and a peptide is conjugated to the microparticle. Therefore, it would have been clearly obvious to bond the peptide to the surface of the polymer of Shalaby et al when the polymer is in the form of a microsphere.

15 **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of
20 this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the

statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone
5 number is (703) 308-0520. The examiner can normally be reached on Monday-Thursday and every other Friday from about 8:30 AM to about 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, a message can be left on voice mail.

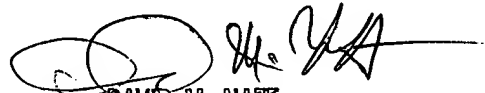
10 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn, can be reached at telephone number (703) 308-4743.

The fax phone number is (703) 872-9306 before final rejection or (703) 872-9307 after final rejection.

15 Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

20

DMN
6/27/03


DAVID M. NAFF
PRIMARY EXAMINER
ART UNIT 1651